March 10, 2003 CERTIFIED MAIL #9058 7715

John Anderson
Calumet Abrasives Co., Inc.
3039 169th Place
Hammond, Indiana 46323

Re: Registered Operation Status, 089-17113-00297

Dear Mr. Anderson:

The application from Calumet Abrasives Co., Inc. received on January 13, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5 it has been determined that the following Bonded Abrasives Manufacturing Process, to be located at 3039 169th Place, Hammond, Indiana, is classified as registered:

Two (2) Hobart Mixers with a fume hood to an outside stack, no controls;
(for mixing of abrasives with liquid resin at a rate of 84 lbs/hr, 0.042 T/hr);

Two (2) Gilson Rotary Mixers with a Torit Dust Collector;
(where powder resin is mixed with wetted abrasive grain at a rate of 72 lbs/hr, 0.036 T/hr);

One (1) Screen Table (for screening mixed material) with a hood ducted to the same Torit DC;

Eight (8) presses where the mix is distributed for molding at a rate of 78.47 lbs of wheels/hr, 0.039 T/hr;
(there is another hood in this area ducted to the same Tort DC;

Four (4) natural gas-fired Curing Ovens (1.75 MMBtu/hr total) for 36 hour batch curing time.

The following conditions shall be applicable:

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

Pursuant to Hammond Air Quality Control Ordinance #3522 (as amended), the source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of source classification.

Pursuant to 326 IAC 6-3-2, the particulate from the Mixing and Molding processes shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The limitation based on this rule is 0.97 pounds per hour. Pursuant to Hammond Air Quality Control Ordinance #3522 (as amended), the processes will be limited to the potentials after controls, 0.855 pounds per hour. The control devices shall be in operation at all times to meet the requirements.

This registration is the first registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Hammond Department of Environmental Management
Air Pollution Control Division
Room 304
5925 Calumet Avenue
Hammond, Indiana 46320

and

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 and the Hammond Air Quality Control Ordinance 3522 (as amended), if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Ronald Novak, Director
Hammond Department of Environmental Management

KM

cc: Permit Administrator – Mindy Hahn

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3).

Company Name:	Calumet Abrasives Co., Inc.
Address:	3039 169th Place
City:	Hammond
Authorized Individual:	John Anderson
Phone #:	219-844-2695
Registration #:	089-17113-00297

I hereby certify that Calumet Abrasives Co., Inc. is still in operation and is in compliance with the requirements of Registration 089-17113-00297.

Name (typed):	John Anderson
Title:	President
Signature:	
Date:	

Indiana Department of Environmental Management
Office of Air Quality
and
Hammond Department of Environmental Management
Air Pollution Control Division

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Calumet Abrasives Co., Inc.
Source Location:	3039 169th Avenue, Hammond, Indiana 46323
County:	Lake
SIC Code:	3541 – Machine tools, metal cutting equipment
Operation Permit No.:	089-17113-00297
Permit Reviewer:	Kristina Massey

The Hammond Department of Environmental Management (HDEM) has reviewed an application from Calumet Abrasives Co., Inc. relating to the operation of a Bonded Abrasives Manufacturing Process.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

Two (2) Hobart Mixers with a fume hood to an outside stack, no controls;
(for mixing of abrasives with liquid resin at a rate of 84 lbs/hr, 0.042 T/hr);

Two (2) Gilson Rotary Mixers with a Torit Dust Collector;
(where powder resin is mixed with wetted abrasive grain at a rate of 72 lbs/hr, 0.036 T/hr);

One (1) Screen Table (for screening mixed material) with a hood ducted to the same Torit DC;

Eight (8) presses where the mix is distributed for molding at a rate of 78.47 lbs of wheels/hr, 0.039 T/hr ;
(there is another hood in this area ducted to the same Torit DC;

Four (4) natural gas-fired Curing Ovens (1.75 MMBtu/hr total) for 36 hour batch curing time.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

OP 2129, issued on September 13, 2002.

All conditions from previous approvals were incorporated into this permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
Fume Hood	Abrasive Mixing	20	1	1000	70
Torit Dust Collector	Mixing and Molding	Vents inside		6000	70
Ovens	4 Curing Ovens	20	1.25	2736	365

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Director that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 13, 2003.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (three (3) pages).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	10.328
PM-10	8.788
SO_2	0.005
VOC	0.042
CO	0.644
NO_x	0.767

HAP's	Potential To Emit (tons/year)
Phenol	3.667
Formaldehyde	0.857
TOTAL	4.524

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year and 25 tons per year in Lake County**.** Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(c) The potential to emit of particulate matter is greater than 5 tons per year and less than 25 tons per year therefore the source is subject to 326 IAC 2-5. Pursuant to Hammond Air Quality Control Ordinance #3522, Local Operation Permits will be issued along with the State Registration.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2001 HDEM emission information.

Pollutant	Actual Emissions (tons/year)
PM	0.563
PM-10	0.480
SO_2	0.001
VOC	0.009
CO	0.145
NO_x	0.172
HAP (total)	0.809

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	Moderate nonattainment
SO_2	Primary nonattainment
NO_2	Attainment/unclassifiable
Ozone	Severe nonattainment
CO	Attainment/unclassifiable
Lead	Attainment/unclassifiable

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Lake County has been classified as nonattainment for PM-10. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	3.803
PM10	3.242
SO_2	0.005
VOC	0.042
CO	0.644
NO_x	0.767

This existing source is **not** a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year, or VOC greater than 10 tons in Lake County, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the Hammond Department of Environmental Management (HDEM).

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Lake County and the potential to emit VOC and NO_X is less than ten (10) tons per year. The source is not one of the twenty-eight (28) listed sources and its potential to emit PM10 is less than one-hundred (100) tons per year including fugitive emissions, therefore, 326 IAC 2-6 does not apply.

Pursuant to Hammond Air Quality Control Ordinance #3522 (as amended), the source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of source classification.

326 IAC 6-2-4 (Particulate Emissions Limitations)

The particulate emissions from all of the indirect heating facilities shall be limited by the following equation since all of the facilities were constructed after September 21, 1983:

$Pt = 1.09/Q^{0.26}$

where Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input
Q = Total source maximum operating capacity rating in mmBtu/hr heat input

The source is not subject to this rule, since the ovens do not meet the definition of indirect heating.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-1-2 (Particulate Emissions Limitations)

These facilities are not subject to 326 IAC 6-1-2 (Particulate Emissions Limitations), because the source does not have the potential to emit 100 tons/year or actual emissions of 10 tons/year of particulate.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, the particulate from the Mixing and Molding processes shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The limitation based on this rule is 0.97 pounds per hour. Pursuant to Hammond Air Quality Control Ordinance #3522 (as amended), the processes will be limited to the potentials after controls, 0.855 pounds per hour. The control devices shall be in operation at all times to meet the requirements.

Conclusion

The operation of this Bonded Abrasives Manufacturing Process shall be subject to the conditions of the attached proposed Registration and Local Operation Permits.

ALABAMA POWER LAW (CDS)/EIS CALCULATIONS

BONDED ABRASIVES MANUFACTURING PROCESS (GRINDING WHEELS)

Calumet Abrasives Co., Inc.
3039 169th Place
Hammond, IN 46323

Bonded Abrasives Mfg Process

PLANT ID NO: N/A
INSP DATE: new source
CALC DATE: 2/24/03

CALCULATIONS BY: Kristina Massey

YEAR OF DATA: **REVIEW**

NO. OF POINTS: 4

EF: EMISSION FACTOR
CE: CONTROL EFFICIENCY
MDR: MAXIMUM DESIGN RATE
MDC: MAXIMUM DESIGN CAPACITY
Ts: STACK DISCHARGE TEMPERATURE
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

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POINT ID: **Mix Step 1**
Abrasives + Liquid Resin

MDR (T/hr): 0.042
YEARLY PROD (T/yr): 54.12

STACK ID (DIAM:HEIGHT): (1': 20')
FLOWRATE (ACFM): 1000
Ts(°F): 70

CNTRL DEV: fume hood
no control

PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
SCC#	3-05-036-01	(AP42)	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	20	0	0.8400	20.1600	**3.6792**	0.8400	3.6792	N/A	0.8400	3.6792	0.5412	0.5412
PM10	17	0	0.7140	17.1360	**3.1273**	0.7140	3.1273	N/A	0.7140	3.1273	0.4600	0.4600
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000

* This point has potential emissions below the State's registration thresholds.

Hammond Air Quality Control Ordinance 3522 (as amended)

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POINT ID: **Mix Step 2**
Powder Resin + Wetted Abrasives

MDR (T/hr): 0.036
YEARLY PROD (T/yr): 15.74

STACK ID (DIAM:HEIGHT): no outside stack
FLOWRATE (ACFM): 6000
Ts(°F): 70

CNTRL DEV: Torit Dust Collector

PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
SCC#	3-05-036-01	(AP42)	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	20	0.99	0.7200	17.2800	**3.1536**	0.0072	0.0315	N/A	0.0072	0.0315	0.1574	0.0016
PM10	17	0.99	0.6120	14.6880	**2.6806**	0.0061	0.0268	N/A	0.0061	0.0268	0.1338	0.0013
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000

* This point has potential emissions below the State's registration thresholds.

Hammond Air Quality Control Ordinance 3522 (as amended)

Emission Factors from 3-01-014-02, Paint Manufacture - Pigment Handling.

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POINT ID: Mix Distributed to Presses for Molding

MDR (T/hr): 0.039
YEARLY PROD (T/yr): 69.86

STACK ID (DIAM:HEIGHT): no outside stack
FLOWRATE (ACFM): 6000
Ts(°F): 70

CNTRL DEV: Torit Dust Collector

PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
SCC#	3-05-036-02	(AP42)	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	20	0.99	0.7847	18.8328	**3.4370**	0.0078	0.0344	N/A	0.0078	0.0344	0.6986	0.0070
PM10	17	0.99	0.6670	16.0079	**2.9214**	0.0067	0.0292	N/A	0.0067	0.0292	0.5938	0.0059
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0	0.0000	0.0000	0.0000

* This point has potential emissions below the State's registration thresholds.

Hammond Air Quality Control Ordinance 3522 (as amended)

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POINT ID: Four (4) Curing Ovens Natural Gas Fired

MDC (MMBtu/hr): 1.75
MDR (MMcft/hr): 0.0018

HEAT CONTENT (Btu/cft): 1000
QTY BURNED (MMcft/yr): 3.44

STACK ID (DIAM:HEIGHT): (1.25': 20')
FLOWRATE (ACFM): 2736
Ts(°F): 365

CNTRL DEV: NONE

PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
SCC#	3-05-036-05		BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	7.6	0	0.0133	0.3192	**0.0583**	0.0133	0.0583	N/A	0.0133	0.0583	0.0131	0.0131
PM10	7.6	0	0.0133	0.3192	**0.0583**	0.0133	0.0583	N/A	0.0133	0.0583	0.0131	0.0131
SOx	0.6	0	0.0011	0.0252	**0.0046**	0.0011	0.0046	N/A	0.0011	0.0046	0.0010	0.0010
NOx	100	0	0.1750	4.2000	**0.7665**	0.1750	0.7665	N/A	0.1750	0.7665	0.1722	0.1722
VOC	5.5	0	0.0096	0.2310	**0.0422**	0.0096	0.0422	N/A	0.0096	0.0422	0.0095	0.0095
CO	84	0	0.1470	3.5280	**0.6439**	0.1470	0.6439	N/A	0.1470	0.6439	0.1446	0.1446
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.0000	0.0000	0.0000	0.0000

* This point has potential emissions below the State's registration thresholds.

Hammond Air Quality Control Ordinance 3522 (as amended)

Volatile evolved from Oven 1 or 3
11.30 pounds of phenol over 36 hours cure
2.64 pounds of formaldehyde over 36 hours
Volatile evolved from Oven 2 or 4
3.77 pounds of phenol over 36 hours cure
0.88 pounds of formaldehyde over 36 hours

Potential HAPs

Phenol	0.733 lbs/hr	=	3.208 TPY
Formaldehyde	0.171 lbs/hr	=	0.749 TPY

Plant/Process Totals

	POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
Pollutant	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	2.358	56.592	10.328	0.868	3.803	N/A	0.868	3.803	1.410	0.563
PM10	2.006	48.151	8.788	0.740	3.242	N/A	0.740	3.242	1.201	0.480
SOx	0.001	0.025	0.005	0.001	0.005	N/A	0.001	0.005	0.001	0.001
NOx	0.175	4.200	0.767	0.175	0.767	N/A	0.175	0.767	0.172	0.172
VOC	0.010	0.231	0.042	0.010	0.042	N/A	0.010	0.042	0.009	0.009
CO	0.147	3.528	0.644	0.147	0.644	N/A	0.147	0.644	0.145	0.145
LEAD	0.000	0.000	0.000	0.000	0.000	N/A	0.000	0.000	0.000	0.000

Hammond Air Quality Control Ordinance 3522 (as amended)

* This source is classed "Registered" according to potential emissions
* Phenol and formaldehyde are on the IDEM's list of Hazardous Air Pollutants (HAPS).

Potential HAPs

Phenol	0.837 lbs/hr	=	3.667 TPY
Formaldehyde	0.196 lbs/hr	=	0.857 TPY

for future tox screen info:

(1) oven flowrate is sum of 4 ovens
(2) temp is average of 4 ovens
(3) phenol and formaldehyde rates are sum of 4 ovens